IN THE SPECIFICATION:

Please replace the BRIEF DESCRIPTION OF THE DRAWINGS beginning on page 4, line 5, as follows:

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1A shows the guiding of laser light in a solid core gain medium contained within a conventional solid dielectric cladding medium.

Figure 1B shows the guiding of laser light in a hollow core in which the core is is formed within a photonic-band-gap dielectric cladding, and filled with a vapor to serve as the gain medium.

Figure 2 shows a basic embodiment of the present invention for a case employing Rb vapor as the gain medium.

Figure 3A depicts the energy levels of atomic Rb.

Figure 3B shows spectral data of the pump radiation at 780 nm and the emitted laser radiation at 795 nm.

Figure 4 shows a schematic diagram of an experimental setup used to demonstrate the atomic vapor Rb laser.

Figure 5 shows the measured laser output power from the experimental setup of Fig. 4 using an output coupler having 50% reflectivity and a Rb number density of $1.7 \times 10^{13}/cm^3$.

Figure 6A shows the measured 795 nm output laser power as a function of output coupler reflectivity.

Figure 6B shows the dependence of output power on Rb cell temperature.

~~Figure 7 shows a cross sectional photograph of the a hollow core photonic-band-gap fiber.~~

~~Figure 8 shows a photonic-band-gap fiber with a hollow core surrounded by a ring cladding of dielectric material containing an array of air holes.~~

~~Figure 9 shows a photonic-band-gap fiber with a solid dielectric core and a holey surrounding annular cladding region.~~

Please replace the paragraph beginning on page 10, line 17, as follows:

Shortly after the development of photonic-band-gap fiber lasers with solid cores, the confinement of light within a hollow core photonic-band-gap structure was demonstrated (see reference 2). ~~Figure 7 shows a~~ A cross sectional photograph of the first hollow core photonic band-gap fiber was reported in the scientific literature in 1999. The core diameter in this structure was 14.8 μm.

Please replace the paragraph beginning on page 11, line 1, as follows:

~~The structures shown in Figures 7-10 are~~ Structures generically called "photonic bandgap fibers" or PBFs. ~~Sometimes they are~~ are sometimes called "holey fibers" as well. Generally speaking, the "holes," which are sized and arrayed appropriately within the solid dielectric material comprising the body of

the fiber, are intended to confine and guide optical radiation propagating along the structure, obviating the need to incorporate a metal or dielectric multi-layer stack reflector along the surfaces of the capillary.

Please replace the paragraph beginning on page 11, line 8, as follows:

The light guiding properties of hollow waveguides using photonic band-gap structures~~, e.g., as shown in Fig. 7,~~ are determined by the patterned air-glass structure ~~70~~ surrounding the hollow core ~~72~~. This structure serves to confine certain wavelengths to the hollow core region through a Bragg confinement mechanism that essentially acts as a mirror reflector. Because the photonic-band-gap structure can be varied as a function of radius, independent waveguide structures can be constructed to separately confine the laser radiation to the hollow core and the pump radiation, which has a different wavelength than the laser radiation, to some larger cross sectional area in the fiber. This enables the design of the equivalent of cladding pumped fiber structures, which today use a solid core, with a hollow core to contain the alkali vapor and buffer gas mixture required for the gain medium.

Please replace the paragraph beginning on page 11, line 20, as follows:

In ~~the~~ one type of "hollow-core" PBF ~~of Figure 8~~, the hollow core ~~80~~ is surrounded by a ring of dielectric material ~~82~~ dispersed with a pattern of air holes. There is no physical reflector material on either the inner or outer surfaces

of the "holey" dielectric annular region. This "holey" inner annular region is contained within an outer solid annular dielectric cladding ~~84~~ generally of lower index of refraction than that of the inner annular region. In one embodiment of the present invention, the alkali vapor and buffer gases (referred to herein collectively as the "gain medium") fill only the hollow core. In another embodiment, the gain medium fills both the hollow core and the air holes. In another embodiment, the gain medium fills only the air holes.

Please replace the paragraph beginning on page 12, line 9, as follows:

Other PBF or "holey" fiber structures are within the scope of the present invention. ~~In Figure 9, the~~ One type of PBF has a solid dielectric core ~~90~~ and a holey surrounding annular region ~~92~~. This "holey" inner annular region is contained within an outer solid annular dielectric cladding ~~94~~ generally of lower index of refraction than that of the inner annular region. The alkali vapor and buffer gases are diffused into the holes in this surrounding annular region.